

REMARKS

The Office Action dated August 7, 2006 has been received and carefully noted. The above amendments to claims 1, 3-6, 9-11, 15, and 25 and the following remarks, are submitted as a full and complete response thereto.

In accordance with the foregoing, claims 1, 3-6, 9-11, 15, and 25 have been amended to improve clarity of the features recited therein. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-11, 13-17, and 19-25 are pending and under consideration.

Applicants are grateful for the indication that claims 11, 13-17, and 19-24 contain allowable subject matter, and that claims 2, 3, 5, 6, and 10 would be allowable if amended to be in independent form. However, it is respectfully asserted that, at least for the reasons set forth below, independent claim 1, upon which claims 2, 3, 5, 6, and 10 are dependent, is patentable in view of the references cited.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 2, claims 1, 4, 7-9, and 25 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,665,273 to Goguen et al. ("Goguen") in view of U.S. Publication No. 2002-0080794 to Reeves et al. ("Reeves"). The Office Action took the position that Goguen and Reeves disclose all the aspects of independent claims 1 and 25. The rejection is traversed and reconsideration is requested.

Independent claim 1, upon which claims 2-10 are dependent, recites a method for reserving resources for at least one flow of packets on a Multi-Protocol Label Switching (MPLS) based path in a network, the method includes identifying at least one flow of packets from a connection to a destination, wherein at least one flow of packets is associated with a required resource for forwarding each packet in at least one flow towards the destination over the network and employing a first type of message to establish a Label Switching Path (LSP) in the network for at least one flow from the connection towards the destination; wherein the LSP is established from an ingress router to an egress router in the network. The method further includes employing a second type of message to reserve the required resource at each router along the LSP for at least one flow of packets from the connection, and when a new resource is required for at least one flow of packets from the connection, employing the second type of message to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP. A new path is established by the first type of message for that portion of the existing LSP that includes a router that employs an MPLS protocol, instead of a router that employs the EMPLS protocol.

Independent claim 25 recites a method for reserving resources for at least one flow of packets on a Multi-Protocol Label Switching (MPLS) based path in a network, the method includes identifying at least one flow of packets from a connection to a destination, wherein at least one flow of packets is associated with a required resource for

forwarding each packet in at least one flow towards the destination over the network, and employing a first type of message to establish an a Label Switching Path (LSP) in the network for at least one flow from the connection towards the destination; wherein the LSP is established from an ingress router to an egress router in the network. The method also includes employing a second type of message to reserve the required resource at each router along the LSP for at least one flow of packets from the connection, when a new resource is required for at least one flow of packets from the connection, using the second type of message to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP, and establishing a new path by the first type of message for that portion of the existing LSP that includes a router that employs an MPLS protocol, instead of a router that employs the EMPLS protocol.

As will be discussed below, Goguen and Reeves fail to disclose or suggest the elements of any of the presently pending claims.

Goguen generally describes an MPLS system supporting unicast (traffic engineering) TE tunnel routing. See column 2, lines 20-40. Generally, when a TE tunnel is being established, assuming it to be a dynamic path, the TE module sets the resource requirement of the path based on operator input or default. The TE path calculation module calculates a constrained short path from the "head-end" router to the "tail-end" router based on resources required to setup the path, which in this instance is path 200. (Resource Reservation Protocol) RSVP then signals the routers along the path 200 that a

setup is being performed. However, contrary to the contentions made in the Office Action, Goguen does not teach or suggest, at least, “employing a second type of message to reserve the required resource at each router along the LSP for at least one flow of packets from the connection,” as recited in independent claim 1. The Office Action correctly recognized that Goguen does not teach or suggest the employing of a first type of message to establish a Label Switching Path (LSP). Thus, if the LSP is not even establish in Goguen, it is not possible for a person of ordinary skill in the art to conclude that Goguen provides employing a message to reserve the required resource at each router along the LSP for at least one flow of packets.

In addition, the improved MPLS system of Goguen provides that, according to one example, the improved MPLS system signals a path from the head-end network device to the tail-end network device using the adjusted bandwidth as one of the constraints for establishing the path. See column 5, lines 22-27. If the new path is different from the previous path then the previous path is "torn down" and replaced by the new path as the TE tunnel. Also, according to Goguen, a TE module initiates a path setup procedure to find a path that is able to accommodate an adjusted bandwidth. See column 8, lines 1-6. However, Goguen does not teach or suggest, at least, “when a new resource is required for at least one flow of packets from the connection, employing the second type of message to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP,” as recited in independent claim 1. Emphasis added. Goguen does not describe that for those routers

using the EMPLS and disposed along the existing LSP, a message is used to reserve a new required resource. Rather, Goguen limits its description to establishing a data path for adjusted bandwidths.

In addition, Goguen does not teach or suggest, “wherein a new path is established by the first type of message for that portion of the existing LSP that includes a router that employs an MPLS protocol, instead of a router that employs the EMPLS protocol,” as recited in independent claim 1. As previously submitted, Goguen does not teach or suggest the employing of a first type of message to establish the LSP. Furthermore, there is no description or suggestion in Goguen providing that a new path may be established for a portion of an LSP that would include a router employing the MPLS protocol.

Regarding the feature recited in independent claim 1 providing, “employing a first type of message to establish a Label Switching Path (LSP) in the network for at least one flow from the connection towards the destination; wherein the LSP is established from an ingress router to an egress router in the network,” the Office Action concluded that although Goguen does not teach or suggest such recitation, Reeves does describe such feature.

Reeves generally describes that in MPLS a packet is assigned to a FEC only once as the packet enters an MPLS domain, and a "label" representing the FEC is attached to the packet. See paragraph [0038]. When MPLS is deployed over an ATM infrastructure, the label is a particular VC identifier. At subsequent hops within an MPLS domain the IP packet is no longer examined. Instead, the label provides an index into a table which

specifies the next hop, and a new label. Thus, at subsequent hops within the MPLS domain the constituent ATM cells of a packet can be switched using conventional ATM switching techniques. Such paths are known in the art as label switched paths (LSPs).

However, although Reeves generally defines LSP, that alone does not cure the deficiencies of Goguen. Specifically, similarly to Goguen, Reeves fails to teach or suggest, “employing a second type of message to reserve the required resource at each router along the LSP for at least one flow of packets from the connection,” as recited in independent claim 1. Even if Reeves describes employing a first type of message to establish a Label Switching Path (LSP) in the network, not admitted, Reeves does not teach or suggest use of a second type of message to reserve the required resource at each router along the LSP for at least one flow of packets from the connection. In addition, similarly to Goguen, Reeves is silent as to teaching or suggesting, at least, “employing the second type of message to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP, wherein a new path is established by the first type of message for that portion of the existing LSP that includes a router that employs an MPLS protocol, instead of a router that employs the EMPLS protocol,” as recited in independent claim 1. Thus, a combination of Goguen and Reeves would fail to teach or suggest all the recitations of independent claim 1 and related dependent claims.

Because independent claim 25 includes similar claim features as those recited in independent claim 1, although of different scope, and because the Office Action refers to

similar portions of the cited references to reject independent claim 25, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 25.

Accordingly, in view of the foregoing, it is respectfully requested that independent claims 1 and 25 and related dependent claims be allowed.

CONCLUSION:

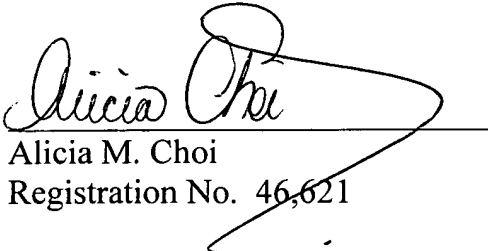
In view of the above, Applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1, 4, 7-9, and 25 be found allowable and, along with allowed claims 2, 3, 5, 6, 10-11, 13-17, and 19-24, this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
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